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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------------------------------------------------------------------------------------|-------------|----------------------|-----------------------------|------------------------|
| 10/525,487 | 02/23/2005 | Martin Dieter Liess | NL 020808 | 4982 |
| 24737 7590 10/18/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510 | | | EXAMINER KARIMI, PEGEMAN | |
| | | | ART UNIT 2629 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-----------------|----------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/525,487 | LIESS, MARTIN DIETER | |
| | Examiner | Art Unit | |
| | Pegeman Karimi | 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 7/18/2007 has been entered and considered by the examiner.

Claim Objections

2. Claim 15 is objected to because of the following informalities:

On line 3, "compute" should be "computer"

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liess (WO 02/37411 A1) in view of Printzis (U.S. Patent 6,525,677).

As to claims 1, 19, and 20, Liess et al. discloses an apparatus (120) comprising:

an optical input device (129) controlled by a moving object (Finger, 15) near a window (12) and an optical keyboard (121). The claimed "optical keyboard" is so broad that it can be read on the keyboard (112) having an optical input device (129), (Liess

teaches). Input device (1, 3, 4, 10, 11, 12, 13, and 18; see Fig. 5a) comprises at least one optical sensor (4) unit comprising:

a diode laser (3) for supplying a measuring beam (13, Page 12, lines 4-5) and converting means (photo diode, 4) for converting measuring beam radiation reflected by the object into an electric signal (Page 12, lines 14-16), which converting means (fig. 6, 4) are constituted by the combination of a laser cavity (20) and measuring means (4) for measuring changes in operation of the laser cavity (Page 12, lines 12-16), which are due to interference of reflected measuring beam (26) radiation re-entering the laser cavity and the optical wave in this cavity and which are representative of the movement of the object (page 12, lines 25-34, page 13, lines 1-5), wherein a path of the measuring beam from the diode laser to the window (12) extends through a light guide of the optical keyboard (Dome 10 guides the beam 13 to the window 12). Liess does not mention light path has at least three mirrors. Printzis teaches light path (428) including at least three mirrors (there are at least three mirrors 460, 462, and 464). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the light path and at least three mirrors of Printzis to the optical input device of Liess because the light reflected by the first mirror can pass through each key location (col. 11, lines 45-47), the other mirrors reflect the light from the optical source toward the next set of key locations, so that the light passes through all key location to provide which key location is selected (col. 11, lines 50-55) and (col. 13, lines 14-17).

As to claim 2, Liess et al. does not teach measuring beam of the first and second sensor. Printzis (Fig. 1) teaches the apparatus wherein the input device comprises two sensor units (134 and 132), which are arranged relative to the optical keyboard (col. 5, lines 46-47 and lines 57-59) such that the measuring beam of the first and second sensor unit (photo diode, 132 and 134) passes on its way to the device window (i.e. 320, 322, 324, 318, etc.) the positions of a first set of keys and the positions of a second set of keys (col. 3, lines 40-42, and col. 4, lines 26-30), respectively, the first set and the second set (rows and columns) together comprising all keys to be controlled (see Fig. 1). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the two sensor units of Printzis to the input device of Liess because the two sensors of Printzis configured to respond to a change in a received light quantity and to provide an electrical signal in response to a selection of a key at a key location (col. 14, lines 29-32).

As to claim 3, Printzis teaches the input device comprises three sensor units (410, 412, 416), which are arranged relative to the optical keyboard such that the measuring beam of the first (410), the second (412) and the third sensor (416) unit passes on its way to the device window (col. 12, lines 43-48) the positions of a first, a second and a third set of keys (row, column and diagonal), respectively, the first, second and third set comprising all keys to be controlled (See Fig. 5).

As to claim 4, Liess et al. (Fig. 12) teaches the input device (129) comprises a sensor unit (4) adapted to measure both a scroll movement and a click movement

(Page 23, lines 13-17) and provided with additional means (7, 8, etc), which allow establishing the presence of an object on the window of the device (Fig. 12, the 3rd diode laser and photo sensor senses the presence of object 15 and outputs a click).

As to claim 5, Liess teaches the additional means (4, 22, 21, etc.) are constituted by means for establishing whether the modulated measuring beam radiation (4) shows an amplitude variation of a frequency (Laser radiation) lower than the frequencies of variations caused by a scroll movement (re-entering radiation), (Page 15, lines 33-34 and Page 16, line 1).

As to claim 6, Liess teaches a sensor unit (Fig. 5a) comprises a first radiation-sensitive detector (monitor diode, 6) for measuring variations in the laser cavity (Page 14, lines 10-14), wherein the additional means (10, 12, 18, etc.) is constituted by a second radiation-sensitive detector (4) arranged for receiving measuring beam radiation (Page 12, lines 12-16), which is non-incident on the laser cavity (Fig. 6, Photo diode 4 is located outside of the laser cavity).

As to claim 7, Liess teaches the additional means (18, 19) are constituted by electronic means (8, 7) for detecting a component in the output signal of said measuring means (Z-direction, Page 17, lines 23-27).

As to claim 8, Liess teaches a sensor unit (motion detector) is activated by activation pulses (Page 16, lines 29-32) and;

the measuring means (photo diodes) perform measurements during time intervals determined by the activation pulses (first and second half periods, page 16, lines 26-28), wherein

the additional means comprises counting means and comparing means (Electronic processing circuit) to establish whether the number of undulations in the output signal (forward or backward direction) measured during a first and second half of a said time interval are equal (Page 15, lines 23-24).

As to claim 9, Liess et al. discloses the measuring means (4 and 6) of the input device are means for measuring a variation of the impedance of the laser cavity (Page 12, lines 12-16)

As to claim 10, Liess teaches the measuring means is a radiation-sensitive detector (4 and 6) for measuring radiation emitted by the laser (3), (Page 12, lines 12-14).

As to claim 11, Liess (Fig. 6) teaches the radiation-sensitive detector (4) is arranged at the rear side of the laser cavity (Page 12, lines 21-23).

As to claim 12, Liess teaches the second detector (6) is arranged at the side of the laser cavity (measuring beam and second detector are located side by side on the base) where the measuring beam is emitted (5).

As to claim 13, Liess et al. discloses the apparatus is a mobile phone (80), (Page 8, lines 30-32).

As to claim 14, Liess et al. discloses the apparatus is a cordless phone (80), (Page 8, lines 30-32).

As to claim 15, Liess et al. discloses the apparatus is a laptop computer (110), (Page 8, lines 30-32).

As to claim 16, Liess et al. discloses the apparatus is a hand-held computer (110), (Page 8, lines 30-32).

As to claim 17, Liess et al. discloses the apparatus is a keyboard for a desk computer (121), (Page 8, lines 30-32).

As to claim 18, Liess et al. discloses the apparatus is a remote control for a TV set (107), (Page 8, lines 30-32).

Response to Arguments

5. Applicant's arguments, see page 18, paragraph 3, filed on 7/18/2007, with respect to the rejection(s) of claim 1 under 102(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Printzis (U.S. Patent No. 6,525,677).

In view of amendment, the reference of Printzis has been added for new ground of rejections

As to regarding claim 1 is rejected under 35 U.S.C 102(a), the applicant has amended claim 1 to read such that claim 1 offers a light path including at least three

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mirrors. The applicant argues that Liess fails to disclose or fairly suggest a light path including at least three mirrors. The reference of Printzis (U.S. Patent No. 6,525,677) clearly teaches a light path that runs through a set of key locations and the light path has 16 mirrors inside the path to guide the light through a set of key locations this light so, the light passes through all key locations to provide which key location is selected when the user presses/touches a key location.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Inquires

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegeman Karimi whose telephone number is (571) 270-1712. The examiner can normally be reached on Monday-Thursday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pegeman Karimi
October 12, 2007


CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER